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ABSTRACT

This paper reviews a single, large-scale evaluation of a long-term, aid-financed program in some practical subjects in Kenyan secondary schools. The analysis presented is a meta-evaluation, an evaluation of an evaluation, undertaken by two of the authors of the evaluation. A brief account of the evaluation project is first provided. This is followed by an attempt to contextualize the evaluation project within the field of evaluation in the social sciences through an examination of the project's design, approach, and techniques. Finally, some questions are raised about the notion of formal evaluation, derived from mainly developed country environments, as it may apply in policy making in Third World countries. (YLB)

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REFLECTION ON AN EVALUATION IN THIRD WORLD EDUCATION

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Reflection on an Evaluation in Third World Education

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Introduction

The paper sets out to review a single, large scale evaluation of a long term, aid-financed programme in some practical subjects in Kenyan secondary schools. The analysis presented here is a meta-evaluation, an evaluation of an evaluation (Scriven 1969), undertaken by two of the authors of the evaluation. It is necessary to give first a brief account of the evaluation project. The outcomes are fully reported elsewhere (Lauglo, 1985; Närman, 1985; and Cumming et al, 1985. There follows an attempt to contextualise the evaluation project within the field of evaluation in the social sciences through an examination of the project's design, approach and techniques. Finally, some questions are raised about the notion of formal evaluation, derived from mainly developed country environments, as it may apply in policy making in Third World countries.

PART I Evaluating Industrial Education Subjects in Kenyan Secondary Schools

Background

The Swedish International Development Authority (SIDA) gave assistance to some 35 Kenyan Secondary Schools during the period 1969-1981 to establish practical subjects. Workshops were built or renovated, equipment supplied or upgraded, volunteers from Sweden provided initial staffing for those industrial education subjects: woodwork, metalwork, power mechanics, and electrical technology. Altogether some S Kr 30 million were spent on the aid programme. The diversification of curricula achieved was consistent with official Kenyan government policy statements on the desirability of making education more practical.

The Evaluation

Distinctions can be drawn between research and evaluation. Somewhere along a dimension of utilization there comes a point where the design of an evaluation reflects the intentions of the sponsors of the evaluation. The sponsors may also be the main potential users of the outcomes of an evaluation. In the present case, the evaluation project was funded by SIDA, the main potential user, which sought to draw 'lessons' for similar aid programmes in other countries, after completing the support to industrial education in Kenya. The other potential users are the Government of Kenya, specifically those administrative sections in the Ministry of Education dealing with practical subjects and possibly the Ministry of Education's planning unit.

The aims of the evaluation, acting as staging posts for its design, reflect then two main potential users. The evaluation, could be classified as a utilization-focussed evaluation, after Patton (1978). But, at the same time, it was also intended that the evaluation would focus on issues of importance in the international debate about the pro's and con's of diversified secondary education.

In summary form the aims of the evaluation were as follows:

A. To identify the aims and objectives of IE in Kenya, examine these in the Kenyan and international context, and to trace the main influences on the evolution of aims, objectives, and syllabuses.

B. To assess the degree of success of IE both in terms of its official objectives and in terms of the expectations which are held of IE by such groups as students, teachers, headmasters, parents and employers. Also, to identify unanticipated outcomes of IE.

C. To identify conditions which have influenced its degree of success, and to identify the main difficulties or problems pertaining to IE, as perceived by those involved in implementing IE or by those directly affected by the IE subjects.

D. To examine the cost of IE as compared with other parts of general secondary education and with vocational training.

E. To assess the future role of IE in the schools, within the framework of present educational policy in Kenya.

F. To assess Swedish aid to IE in the light of the general aims for SIDA's work and to suggest guidelines for SIDA with respect to possible future involvement with similar curriculum change in other countries.

Straightaway, it can be seen that the last two aims go beyond reporting and verge on speculation and are directed at the sponsor, SIDA, and at the other main user, the Government of Kenya.

The Evaluators

> "The team involved in this evaluation has been a deliberate mixture of persons with 'inside responsibility' for IE and 'outside' researchers".
>
> (Lauglo, 1985 p2)

Of the seven persons in the team only one, the project director, had not previously worked in Kenya. Current insider knowledge was provided by a Kenyan inspector and an expatriate official located in the industrial education implementation unit within the Ministry of Education. Academic perspectives were given by a Kenyan, two British, one Swedish, and one British-based Norwegian member. The team as a whole never met. Drafts of early project papers and of the main report were circulated amongst the team members. The project director maintained written phone and face-to-face contact with the team members over the period of the evaluation, roughly the summer of 1983 to the summer of 1985.

Data Sources for the Evaluation

As well as a review of the international literature, there were six primary sources of data; documents, students, teachers, employers of former industrial education (IE) students, parents and observations of the conditions of workshops and equipment.

Documentary analysis included the following elements:

1. The aims and objectives of industrial education:

2. Aspects of Kenyan education policy of direct relevance to IE and its evaluation:

3. The evolution of the IE syllabuses:

4. Comparison of examination results using school and individual level data.

5. Cost analysis using payment vouchers and salary records.

Students. Data were collected directly from students in the following evaluation stages.

1. Tracer survey using both interviews and questionnaires (the autumn of 1983) of those students in three schools offering industrial education who had the Kenya Certificate of Education (KCE) in earlier years.

2. Questionnaire surveys supplemented by interviews in 1983 and 1984 of students in 20 schools comparing students with varying degrees of exposure to industrial education.

3. A case study school tracer survey (1984) of those who had sat the 1974 KCE exam in IE.

Teachers. Individual teachers were involved as follows:

1. Tracer survey of former Swedish industrial education teachers.

2. Informal interviews with teachers and headteachers on the field trips to IE schools, supplemented by questionnaires.

Employers

A survey of employers was taken in the Nairobi area, these employers being known to have hired former IE students.

Parents. A questionnaire survey of parents/guardians at 12 schools.

Workshops. Workshops were visited at 24 schools in order to assess the condition of buildings, equipment, tools and materials.

PART II Meta-evaluation

The main reason for indulging in meta-evaluation is to improve the capacity of evaluators, qua evaluators, in the future. Thereby, the nature of evaluation is enriched. The guidelines for meta-evaluating are as yet imprecise: Smith (1981, p 267/8) refers to some ten forms of meta-evaluation including collective professional discussions, application of formal standards and formal criticisms.

In what follows it is intended to apply a brew of these three forms. (Reactions to this paper would constitute a form of what Smith labels 'collective professional discussion').

Evaluating what was done and not done

The field of evaluation in the social sciences is only about a quarter century old. Much of literature is North American reflecting the number of evaluations conducted in the 1960s and 1970s as part of the Johnsonian War on Poverty as well as later pressures for public accountability.

Evaluations are carried out according to two sets of rules. The dominant game is played according to the rules of the natural sciences: the 'hypothetico-deductive' paradigm. Less popular, but gaining in use all the time, is the alternative set of rules, based upon the traditions of anthropology and ethnography. Now, in applying 'formal standards' criteria to the choice of paradigm it is necessary to justify the approach taken. Had the evaluation of industrial education subjects been conducted according to the rules of the dominant paradigm a control group of schools and/or students would have been identified; measures of learning outcomes of the IE programme would have been created and comparisons of average learning gain between various categories of school and pupil would have been treated with suitable virtuoso statistical procedures. The judgement of the IE programmes would have rested on interpretation of the statistics so produced.

However, given the range of questions to be answered by the evaluation, as set out in Part I, the range of evaluation activities had to be widened. To be sure, quantitative analysis of outcomes was included - in this case labour market destinations of former students, but, the majority of the evaluation activities accorded with the other main paradign of 'illuminative evaluation'.

> "Illuminative evaluation takes account of the wider contexts in which educational programmes function. Its primary concern is with description and interpretation rather than measurement and prediction."
>
> (Parlett and Hamilton 1972)

Thompson (1985, p 231) acknowledges that the illuminative approach "may bring us closer to the truth than number crunching but ..." (the illuminative approach) ... is "exceedingly sophisticated and not the easier option."

The definition of evaluation adopted

In the main, the evaluation was conducted according to principles enshrined in this brief definition: the systematic collection and detached presentations of information about the activities and outcomes of the IE programme in order that interested persons may make judgements about specific aspects of the programme. This portrayal of evaluation research is based on Patton (1978, p 26). One should note that the illuminative approach does not exclude quantitative assessment of outcomes: but, its scope is substantially wider than such measurement of outcomes. That the illuminative approach taken is 'sophisticated', as suggested by Thompson, is reflected in the techniques used, the collaborative involvement of seven evaluators and the open-reporting by SIDA. Some remarks are made on each of these components of the evaluation project.

Techniques: The term 'systematic collection' in the definition of evaluation infers planning the procedures and using rigorous techniques of data collection. Certainly, interview and questionnaire schedules were planned and developed according to normal social science procedures. Documents were analysed using the skills commonly associated with the historian or sociologist. Investigation of performances of schools and individuals on examinations and processing interview/questionnaire responses requires application of non-parametric and survey statistics. Tracer studies require amongst other elements a dogged refusal to drop cases. In their case, the main tracer survey succeeded in collecting at least some data for 87% of a target sample of 1514 former students, one year after their lower secondary examination.

Collaboration: There are two different issues involving collaboration.

First, in order to test out the validity of interpretation of data and so seek to answer possible charges of subjectivity, evaluators using the illuminative approach try to adopt 'the triangulation' technique. (For instance, different views of whether a misdemeanor has occurred in a classroom can be taken by pupils, the teacher and an observer. These views are subjected to rigorous analysis and interpretation.) Triangulation was adopted widely in the IE project. Second, although the formulation of the general report of the evaluation project was undertaken by the director of the evaluation project, this information was based on the perspectives (in written reports) of all seven evaluators.

Open-reporting: The definition held of evaluation suggests that 'interested persons', here the Government of Kenya, SIDA, perhaps teachers of IE, the international aid community, must be in a position to make their own judgements of the programme once given the information and evaluation account by the evaluators. Thus, the general report is a discursive treatment of the findings setting them in the context of the international literature. The author does come to his own conclusions but much of the key data are there for other 'interested persons' to appraise. Moreover, there are frank accounts of the very varied views of teachers and parents and of the aims of SIDA aid in this curricular area. The other two volumes of the project report give ample information for others to rework.

That being said and coming now to applying criticism to the project's evaluation approach there are two main omissions in the coverage of the evaluation. It will not be economists alone who will note that there is no cost-benefit analysis applied in this project. Cost-benefit analysis has claims to being a useful evaluative tool and the use, either exclusively or in conjunction with other techniques, would have been consistent with the dominant hypothetico-deductive paradigm for evaluation. The remainder of this section will consider the omission of cost-benefit analysis. The conclusion will raise the other omission viz the place of such an evaluation in the policy cycle.

Economic analysis of industrial education

The economic analysis in the evaluation consisted of some comparative cost studies which sought to do no more than describe the resources used for industrial education and compare the expenditures on industrial education with those on (a) other secondary school subjects and (b) other forms of vocational education, broadly defined. By making the latter comparison it is implied that the industrial education subjects are 'vocational' in the sense of purporting to improve the labour market success of those involved. Why then did we not use the single evaluative tool of cost-benefit or rate of return analysis? Levin

(1981, p 44) advocates just such a procedure as a tool of evaluation in studies of vocational education 'because the benefits of such programs (vocational education) can be readily assessed in monetary terms in order to make them comparable with costs.' Blaug (1973, p 85) qualifies the use of cost benefit analysis.

'Evaluation implies criteria of judgement, and so long as there is no conflict between output objectives and employment objectives, the appropriate criteria are rates of return to educational investment - that is systematic comparisons of earnings per unit of costs of those who have benefited' ..... (from vocational education) ' with earnings per unit of costs for those who have not'.

Two sets of rates of return could have been generated: IE against other secondary school subjects and IE against other forms of vocational education. An evaluator holding to the hypothetico-deductive stance would reason that if the return on industrial education is low compared both to other subjects and to other forms of vocational education then the advice to the decision-makers would be clear, stop IE! With this single evaluation tool a judgement on the worth of IE could be made. Of course, the original evaluation questions, set out in Part I, would be abandoned, and the understanding of the perspectives of the various 'actors' sacrificed, in favour of a deduction (that IE is a good or poor investment). Such a deduction, based on past experience, is interpreted, according to the tenets of the hypothetico-deductive paradigm, as a prediction and, hence, it can legitimately guide decision making.

Many evaluators (the present writers included) hold reservations concerning (1) the worth of rate-of-return or cost-benefit analysis (as guides for decision-making) in the highly unstable labour markets of Third World countries and the value of present earnings data as indicators of future earnings streams let alone of future productivity of qualified persons; and (2) the cost of data collection in those circumstances. Further, the design of the evaluation was responsive to the potential users whose needs, reflected in the aims of the evaluation, went beyond information for investment decisions into the realms of increased understanding of the implementation of an innovation. Moreover, we can come back to the qualification made by Blaug on the applicability of these forms of economic analysis namely the condition has to be met that 'there is no conflict between output objectives and employment objectives'. As Lauglo (1985) shows in his Implications chapter, there was a lack of consonance concerning the aims of introducing IE. Moreover, the aims to some extent were not operationalised. For instance, a stated aim of using IE to develop problem solving capabilities was not reflected in how IE was taught.

However, whether the evaluation revealed the mechanisms and procedures of use of the outcomes of the evaluation as it stands is very doubtful. It is the issue of evaluation in the policy cycle that we turn for the conclusions.

III Conclusion : Evaluation In Third World Policy-Making

Sharpe (1977 p 44) quotes Keynes as follows:

> ... there is nothing a government hates more than to be well-informed; for it makes the process of arriving at decisions more complicated and difficult"

Keynes probably had in mind British and other democratic governments. How much more true would this comment be of the mass of single party, military

and other non-representative governments of the Third World?

The question addressed in this part is whether any scheme of evaluation, with its philosophies, models, strategies and techniques, has universal applicability. (We leave aside the issue of the use of evaluation, such as that described above, by SIDA and other aid organisations).

An attempt was made to reconstruct the IE project from its inception in 1969, on the basis of documentation and interviews. But since this had to be done retrospectively - with limited documentation and lack of direct access to several key persons (due to turn over of implementation staff) - this activity could not be carried out in great depth. The variations in the project as implemented compared to the initial plan are reflected in some of the data e.g. in extra spending: but, the forces which moulded the twists and turns of the project over twelve years remain only superficially explored. Perhaps, through a process of formative evaluation during the years of project implementation, the influences which shaped the project could have been examined in depth. To attempt such a reconstruction of influences on a purely retrospective basis is always difficult.

Evaluators are prone to worry about the use or rather the neglect of their work. Patton (1978 p 34) is encouraging in this regard when he observes that 'utilization (of evaluation) is a diffuse and gradual process of reducing decision-maker uncertainty within an existing social context'. But he was concluding from a study of 20 American evaluations on the files of the Office of Health Evaluation. Patton's decision-makers, by a process akin to osmosis, let through to their 'decision-centres' the insights offered by evaluation so that their next decision was that much more informed. However, Smith (1985) argues that the policy cycle in Third World nations, especially authoritarian ones (the majority?) is a closed system, unlike those of most developed countries where systematic and sophisticated evaluation was born and increasingly is used. The public policy-making cycle is closed crucially at the point of entry where an agenda of issues ought to be built by reconciling pressures of various interest groups using evaluations of previous policies. Smith, op cit, argues that an assessment of the agenda building phase of the policy cycle in Third World nations indicates that seldom is the agenda or resulting policy "the result of demands and pressures from competing interested groups or political parties." More typically edicts are issued, discontinuities from previous policies abound, ('overtaken by events' is a frequent bureaucratic bromide) and the need to survive in power overwhelms any feelings that consultation may help implementation.

The context for an evaluation project such as that reviewed here ought to be an open and competitive political process because the adopted evaluation philosophy demands it. On reflection, some of the key features of the policy making process may not exist in the Third World. Evaluation of projects there may well demand other localised approaches based on the unique policy cycles which evaluation is meant to feed. In this respect, the present evaluation articulated very poorly with the Kenyan policy cycle. While the research was underway in 1984, but before the reporting stage, the Government of Kenya launched a major educational reform in which a key feature is the great stress on practical subjects throughout the primary and secondary school cycles. The IE evaluation was officially intended to contribute to SIDA's aid policy, to the international debate about diversified secondary education and to Kenyan policy-making. It is likely that the last contribution will be quite limited not only because of ill-timing, but also because of the overwhelming importance of the political imperatives which shape policy on practical subjects on school curricula: the need for policy makers to be seen to take educational measures which purport to combat school-leaver unemployment.

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